Alignment and Ortho-Rectification of Lunar Surface Image Using the NASA Ames Stereo Pipeline

The ortho-rectification and alignment of a lunar surface image from the LROC Experimental Data Record data using Ames Stereo Pipeline is outlined.

High-Resolution Reconstruction for NoData Gaps in Narrow Angle Camera Digital Terrain Models Using Gaussian Process-Latent Variable Model

Data-driven approach for high-resolution reconstruction for NoData gaps in Apollo 17 landing site NAC DTMs is proposed by using GP-LVM and optimization.

Global Lacunarity of Planetary Datasets: Methodology

Lacunarity: / Doing it on a whole sphere / Shows global patterns.

An Advanced Method for Crater Counting from Digital Terrain Model Using Rotational Pixel Swapping Method

We have developed a fully automated algorithm for crater age determinations based on the Rotational Pixel Swapping (RPSW), which uses DTM/DEM data.

Lunar Crater Detection via Region-Based Convolutional Neural Networks

An advanced crater detection algorithm based on Convolutional Neural Network able to detect 92% of craters on images captured by Lunar Reconnaissance Orbiter.

On Crater Classification Using Deep Convolutional Neural Networks


Automated Detection of Martian Craters Using a Convolutional Neural Network

Counting craters is / Easier when you use a / Supercomputer.

Deep Learning to Detect Lunar Craters and Transfer-Learn to Mercury

We train a convolutional neural network to recognise craters in digital elevation model images of the Moon. Our results compare well to human generated data.

Global Broadband Thermal Emission Maps of the Moon

Surface properties / Are hard to find for the Moon. / These new maps will help.

Application of Deep Learning for Automatic Detection of Lunar Swirls by Combining Data from Multi-Band Imager and DEM

My study is automatic identification of lunar swirls by deep learning. I evaluate the application of deep learning to automatic detection of lunar swirls.
Kramer G. Fonteneau L. Irving A. Goodrich C. Combe J.-P. POSTER LOCATION #509
The Spectro-Chemineralogic Image Cube: A Database for Mineral Identification and Improvement of Spectral Models [#1742]
It’s like an image cube with additional layers that provide mineral and chemical information for the same pixel as the spectrum.

Herd R. K. POSTER LOCATION #510
Some Stages in the Petrogenesis of Ordinary Chondrites: Constraints from Textural Observations [#2790]
BSE images of chondrules and their matrices may be used to define sequential textural contexts within which analyzed phases may be placed.

Sheikh D. POSTER LOCATION #511
An Extensive Analysis of Chondrule Textures in Un-Equilibrated Ordinary Chondrites and the Creation of a Chondrule Database [#1203]
A chondrule database system used to individualize chondrules, rather than group them by texture, can potentially better constrain chondrule forming mechanisms.

Martin A. C. Boyd A. K. Robinson M. S. POSTER LOCATION #512
Controlling LROC NAC Photometric Images [#1621]
Absolute control is applied to LROC NAC images to increase scientific value and allow precise phase, emission, and incidence angle calculations from NAC DTMs.

Politte D. V. Arvidson R. E. O’Sullivan J. A. He L. Powell K. E. et al. POSTER LOCATION #513
End-to-End Processing of CRISM Along-Track Oversampled Observations with Atmosphere and Temperature Corrections [#2063]
We have developed and validated an end-to-end method for deriving single scattering albedo for CRISM hyperspectral data cubes over wavelengths 0.45 to 3.8 μm.

Controlled Basemaps for Mars 2020 Rover Candidate Landing Sites [#2799]
Rover landing sites: New maps show science targets’ / Precise locations.

Laura J. R. POSTER LOCATION #515
Sparse Multi-Image Control Using AutoCNet: CTX [#2750]
The AutoCNet library is used to identify correspondences between CTX images for control.

Shepherd M. Kirk R. L. Sides S. C. POSTER LOCATION #516
A Novel Technique for Precision Geometric Correction of Jitter Distortion for the Europa Imaging System and Other Rolling-Shutter Cameras [#2188]
Active pixel cameras like EIS suffer geometric distortions from motion during readout. We show how these distortions can be corrected with subpixel accuracy.

The lunar investigations of TREX, a SSERVI node developing tool for exploration of airless surfaces for human and robotic in situ resource utilization missions.

Toolbox for Research and Exploration (TREX): Investigations of Fine-Grained Materials on Small Bodies [#1141]
The Toolbox for Research and Exploration (TREX) is a NASA SSERVI (Solar System Exploration Research Virtual Institute) node.
Noe Dobrea E. Z.  Banks M.  Hendrix A. R.  Lane M. D.  Osterloo M.  et al.  

**POSTER LOCATION #519**  
**Toolbox for Research and Exploration (TREX): Robotic Decision Making in a Fine-Grained Environment [#1618]**
We describe the goals of Theme 4 of the SSERVI Toolbox for Research and Exploration investigation.

Lane M. D.  Allain J. P.  Clark R. N.  Cloutis E. A.  Dyar M. D.  et al.  

**POSTER LOCATION #520**  
**Toolbox for Research and Exploration (TREX): The Fine-Particle Spectral Library [#1098]**
TREX focuses on fine-particulates (terrestrial, lunar, meteorite) measured at ambient and space-relevant conditions for application to airless body research.

Hirata N.  Hirata N.  Sugiyama T.  Kanamaru M.  Senshu H.  et al.  

**POSTER LOCATION #521**  
**Asteroid Shape Reconstruction Efforts in Hayabusa2 Mission: A Dry-Run Test for Landing Site Selection with Simulated Data [#1855]**
Methods on shape modeling of asteroid for Hayabusa2 mission is tested with simulated images of a fake asteroid.

Ernst C. M.  Gaskell R. W.  Barnouin O. S.  Daly R. T.  

**POSTER LOCATION #522**  
**A Complete, Coregistered, and Searchable Collection of Phobos and Deimos Images from 1975–2016 [#2769]**
The Small Body Mapping Tool now contains a complete, coregistered, and searchable collection of Phobos and Deimos data from Viking, Phobos2, MGS, MRO, and MEX.